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United States Department of Agriculture
Bureau of Markets

SEED REPORTER

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Announcement.

Section 2 of an act of Congress (Public No. 40, 65th Congress) approved August 10, 1917, provides as follows:

"Sec. 2. That the Secretary of Agriculture, with the approval of the President, is authorized to investigate and ascertain the demand for, the supply, consumption, costs, and prices of, and the basic facts relating to the ownership, production, transportation, manufacture, storage, and distribution of, foods, food materials, feeds, seeds, fertilizers, agricultural implements and machinery, and any article required in connection with the production, distribution, or utilization of food. It shall be the duty of any person, when requested by the Secretary of Agriculture, or any agent acting under his instructions, to answer correctly, to the best of his knowledge, under oath or otherwise, all questions touching his knowledge of any matter authorized to be investigated under this section, or to produce all books, letters, papers, or documents in his possession, or under his control, relating to such matter. Any person who shall, within a reasonable time to be prescribed by the Secretary of Agriculture, not exceeding thirty days from the date of the receipt of the request, willfully fail or refuse to answer such questions or to produce such books, letters, papers, or documents, or who shall willfully give any answer that is false or misleading, shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not exceeding \$1,000 or by imprisonment not exceeding one year, or both."

In accordance with the provisions contained in section 2, of the act, the Chief of the Bureau of Markets, of the United States Department of Agriculture, has been authorized and instructed, as an agent of the Secretary of Agriculture, to take such steps as may be necessary to obtain authoritative information regarding the matters authorized to be investigated under that section.

The Seed Reporting Service has been established pursuant to sections 2 and 8, of the act, to obtain such information concerning seeds, as may seem necessary or desirable for the guidance of governmental agencies and the public in making plans for increasing production, for promoting efficient distribution, and for directing conservation and utilization.

The Seed Reporter will be under the supervision of Mr. W. A. Wheeler, who is in charge of the Seed Reporting Service. It will be issued the first week in each month and at such other times as may seem desirable.

CHARLES J. BRAND,
Chief, Bureau of Markets.

Voluntary Seed Labeling by Seedsmen.

At the time when the maximum production of staple crops is being asked of the farmers of this country, it is essential that the most effective use be made of field crop seeds. Some system of furnishing the purchaser of seeds with certain essential information is necessary in order to secure uniform stands of crops in the field and to remove one of the avoidable uncertainties of crop production. With a view to providing a means for furnishing information that is of value to the farmer sowing seeds, the Secretary of Agriculture asked representatives of the seed trade to meet in Washington, May 10, 1917, to confer with representatives of the Department of Agriculture. Definite suggestions were considered and adopted by those present, and later approved by the Seed Trade Associations at their annual conventions at Detroit, Michigan in June. According to the plan agreed upon, seedsmen will provide the following information with all lots of ten pounds or over of field crop seeds which they sell:

- (1) Name of seedsmen.
- (2) Kind of seed.
- (3) Proportion of pure live seed present with month and year of germination test.
- (4) Country or locality of origin in the case of the following imported seeds: beans, soy beans, Turkestan alfalfa, and red clover from southern Europe and Chile.

Since the Seed Trade Conventions practically all of the larger seedsmen have individually agreed to conduct their business in accordance with these suggestions.

E. BROWN, Botanist in Charge of Seed Laboratory,
Bureau of Plant Industry.

Inventory of Clover and Alfalfa Seed Held by Large Dealers.

Under date of November 15, a survey was made of clover and alfalfa seed among the large dealers. In this survey schedules were sent to all the large wholesale dealers of clover and alfalfa seed in the country, who are represented on the mailing lists of the Department. This survey covered red clover, alsike and alfalfa. The table below gives the data that were obtained.

The figures given represent all seed of commercial grades and, on the basis of re-cleaned seed, all seed that may be cleaned to commercial grades. Low grades and screenings, including all seeds not equal to commercial grades, or that may be made of commercial grades by re-cleaning, were reported separately.

In the first line, the quantities given represent actual stocks owned or controlled by the large dealers on November 15, 1917, excluding quantities merely under contract, for future delivery, to dealers reporting.

The second line gives quantities under contract for future delivery to dealers reporting.

The third line gives quantities shipped for export, either direct or through brokers, to countries other than Canada, from July 1, 1917, to November 15, 1917. This includes shipments to other countries through Canada, but not those sold direct to Canadian dealers.

The fourth line gives quantities sold on contract for shipment and export after November 15, 1917, to countries other than Canada. In other words, this column represents seeds still held in this country on November 15th, for future export shipment whether owned here or abroad.

The figures given here represent the seed that has actually moved to terminal markets and now held by large dealers, but do not include seed held at country points, and owned by shippers or small dealers, or seed that is still in the hands of growers. An endeavor has been made to secure data from these latter sources, but at this date, they are too incomplete to represent accurately either total movement or comparisons with former years. Later surveys will give more completely the total available stocks in the country for use in 1918.

	Red Clover	Alsike Clover	Alfalfa (Domes- tic)	Alfalfa (Import- ed)
	pounds	pounds	pounds	pounds
Quantity owned or controlled November 15, 1917	14,569,775	6,978,332	12,647,046	433,665
Quantity for future delivery.	3,621,802	1,025,723	2,103,500
Quantity exported July 1, 1917, to November 15, 1917	2,172,715	1,850,163
Quantity sold for export after November 15, 1917	2,350,919	556,513	33,000	72,975

PRELIMINARY GARDEN SEED SURVEY OF NOVEMBER 1, 1917

The following table represents a tabulation of data received from large seed dealers and contract seed growers under date of November 1, 1917. The table represents totals and averages taken from schedules received. No attempt is made here to analyze or interpret the results obtained from this survey. The figures given here will convey relative information regarding conditions as to garden seed supplies and prices at this season of the year as compared with conditions in 1916. It will be understood that this report is not complete and that additions and adjustments will be made from results secured in later surveys. For example, the reports of production and deliveries from Michigan on peas and beans, and sweet corn from all sections for 1917 are incomplete. No accurate comparisons with 1916 can therefore be made on these items.

In the following table the quantities given in the first three columns represent the quantities actually on hand on the date indicated at the heads of the respective columns. These are based on actual records or inventory wherever such were available. In the absence of both, the figures have been based upon the best possible estimate. In the third column, wherever July 1 was not an inventory date, the seedsmen were requested to give figures on any date between June 1 and August 1, which is an inventory date in their business. The quantities given in columns one, two and three are supposed to include all stocks actually held by the dealer reporting, in his own or other private warehouses, or in public warehouses, whether such stocks are owned by him or are in his possession or custody.

The figures given in column one are probably as accurate as can be obtained under any date when large stocks are held by seed dealers and when considerable seed is being received from growers. The figures given in column two are in most cases based upon the best possible estimates that could be given by the seedsmen, and probably represent a fairly accurate basis for comparison with those given in column one. The figures given in column three will represent in most cases the carry-over from the planting season of the spring of 1917, and probably in all cases represent actual inventory.

In column four the quantities of deliveries expected from growers during the next sixty days from November 1, 1917, are indicated. In many cases it has been absolutely impossible for dealers to arrive at any probable degree of accuracy in these figures. With some crops reasonable estimates could be given, with other crops, such as sweet corn, tomatoes, beans and peas, many dealers have indicated the practical impossibility of their doing more than guessing at probable deliveries. In studying the figures in this column,

most seed growers and dealers will know how to interpret them and will know what degree of dependence to place upon them for the various items.

In the fifth and sixth columns, average wholesale prices per pound for the seeds indicated are given as quoted under date of November 1, 1917, and for the same date, 1916. These figures are probably of greater value as indicating a comparison than as representing actual prices. An average which gives a range of prices for many varieties would be unsatisfactory to accept as a basic price for any item. Column five, however, when compared with column six will indicate whether in the minds of the seed dealers and growers reporting, prices this season will be higher than last season, and the degree of advance or decline in such prices.

Columns seven and eight represent the quantities exported or sold for export. Column seven gives the amounts actually shipped for export to countries other than Canada between July 1, 1916, and July 1, 1917. Column eight gives quantities exported or sold for export since July 1, 1917.

The data given in columns nine to fourteen inclusive, have been furnished by contract growers of garden seeds who represent seedsmen who make a business of growing garden seeds either directly or through smaller growers under their supervision, and who make growing contracts in advance of production, with seed dealers, for delivery after the crops are harvested.

Columns nine and ten represent totals of production taken from reports that have been made for both 1916 and 1917. A very large number of reports have given 1916 production and have indicated the impossibility of making even an intelligent guess for 1917. In all such cases, the 1916 report is not included in the following table. The totals given here represent totals of reports where production was indicated for both years, and will give in some cases a fairly accurate idea of relative production. In the case of some Michigan crops, such as beans and peas, it is probable that the figures that will be available later may change very materially the relative production. This same condition exists with sweet corn in other sections, and possibly to a greater or lesser extent with some other seed crops.

Columns eleven and twelve representing average prices obtained under growing contracts are probably representative for the number of reports that have been received.

Columns thirteen and fourteen are in many cases necessarily based on estimates, which in some cases are merely guesses for 1917. Later reports will be necessary to confirm the figures given in these columns, as well as for the columns giving production.

No.	ITEM NAME	Quantity Actually on Hand			4 Anticipated Deliveries Next 60 Days, from November 1, 1917, Pounds	5 Average Wholesale Prices Per Pound		7 Quantity Exported July 1, 1916, to July 1, 1917, Pounds	8 Quantity Exported or Sold for Export Since July 1, 1917, Pounds	9 Relative Production (Incomplete)		11 Average Prices Obtained Under Growing Contract.		13 Average Per Cent Delivered or to Be Delivered on Growing Contract.	
		1 Nov. 1 1917	2 Nov. 1 1916	3 July 1 1917		Nov. 1 1917	Nov. 1 1916			1916	1917	1916	1917	1916	1917
		Pounds	Pounds	Pounds		Cents	Cents			Pounds	Pounds	Cents	Cents	per cent	per cent
1	Beans—Dwarf snap	5,217,213	5,701,321	3,915,263	9,195,407	\$0.19	\$0.16	135,580	66,363	2,382,976	2,883,693	7½	10½	44	40
2	Beans—Garden pole (not including Lima)	2,064,174	2,837,287	2,043,370	2,093,050	.19	.13	10,882	5,878						
3	Beet—Garden	828,409	1,046,807	835,008	309,051	1.01	.58	3,836	20,662						
4	Beet—Mangel	600,499	685,978	431,685	179,399	.63	.30	4,387	2,370						
5	Cabbage	620,936	805,844	44,944	118,910	2.57	1.44	9,020	6,318	129,848	96,087	65	75	58	35
6	Carrot	250,864	259,158	192,345	281,025	1.13	.72	58,052	80,094						
7	Celery	80,384	81,557	82,039	13,459	2.75	2.35	938	3,139						
8	Cucumber	833,701	641,757	911,808	850,746	-.60	.48	10,519	8,069	458,146	413,585	24	29	90	84
9	Lettuce	804,333	746,016	639,639	161,429	.60	.49	232,205	151,672	810,309	614,542	20	23	97	94
10	Muskmelon	383,328	384,369	351,983	329,879	.60	.51	1,685	1,188	139,935	119,090	23	29	80	75
11	Watermelon	808,170	576,825	473,816	176,560	.49	.38	4,248	1,732	54,947	51,393	16	21	60	65
12	Onion seed	378,920	483,636	259,679	400,649	2.50	1.51	157,576	109,916						
13	Parsley	110,701	129,062	127,405	43,881	.56	.42	2,304	3,033						
14	Parsnip	62,937	103,990	69,178	41,418	.73	.34	6,324	12,430						
15	Peas—Garden	23,625,325	36,778,103	7,671,552	9,093,355	.16	.10	4,865,384	1,412,483	6,455,684	6,575,037	6	7½	60	37
16	Radish	899,453	1,153,976	863,807	388,951	.85	.36	30,266	32,173	444,841	294,352	12	15	95	50
17	Spinach	201,824	241,782	138,320	158,419	1.26	.61	926	862	29,080	203,335	13	24	45	25
18	Squash—Winter	104,860	159,754	100,616	86,843	.73	.55	1,342	1,326	87,931	93,700	25	29	80	72
19	Squash—Summer	85,189	90,462	100,015	139,935	.66	.51	1,277	1,505	117,011	86,430	25	30	86	73
20	Sweet corn	1,821,721	1,864,234	2,025,181	4,786,127	.14	.13	69,060	29,188	3,330,467	1,759,317	4	5½	60	50
21	Tomato	154,838	231,320	142,741	127,792	2.18	1.57	5,478	1,069	44,909	27,800	90	95	100	80
22	Turnip—English	1,918,931	2,871,215	2,897,867	164,665	1.01	.37	4,184	1,570						
23	Turnip—Swede	137,950	392,508	289,654	44,660	1.19	.38	3,218	2,150						

It is planned that a more comprehensive survey of the garden seed situation will be made under date of December 31, or at some other future date when accurate data may be secured relative to the Nation's supply of vegetable seeds for utilization for planting in the spring of 1918. It is necessary that the facts as to our supply of vegetable seeds be available for the guidance of Governmental agencies and the public in making plans for the increase of production, for promoting efficient distribution and for the proper utilization and conservation of such seeds.

Clover Seed Production.

A. J. Pieters, Bureau of Plant Industry.

While clover seed has been, is being or may be produced in most of the United States the areas of present commercial production are more limited. Red clover seed is harvested over a wider area than is alsike, the former being a cash crop on farms from New York to the Dakotas and from northern Michigan to Tennessee; the bulk of the crop coming from the six states of Michigan, Ohio, Indiana, Wisconsin, Illinois and Minnesota in the East, and Idaho in the West. In Ohio and Indiana it is probable that the northern half of each state produces more than the southern half, although accurate information is not at hand. Similarly the southern parts of Michigan and Wisconsin produce most of the seed in those states. During recent years a thriving business in growing clover seed has arisen in the Snake River Valley of Idaho, and the Willamette Valley of Oregon. New York used to be a large producer, but production has fallen off and the state now produces but little red clover seed.

Yields per acre vary widely and depend on several factors. On the average, taking in the producing territory east of the Rocky Mountains, the yield is slightly under two bushels per acre. In Idaho the reported average is about five bushels. In good years, however, the better farms realize yields materially higher than those quoted, some yields as high as ten to twelve bushels per acre in Idaho being well authenticated. The production of red clover seed naturally followed the use of the plant in the farm rotation, and it was at one time a common crop in the Atlantic Coast States as far south as Virginia. As the Eastern lands became less productive from over-cropping, the clover seed crop became less sure. In some sections, as New York, the clover root borer became serious and the clover flower midge forced many New York farmers to quit growing red clover seed. In the chief producing sections today the weather is perhaps the greatest single limiting factor, though the midge and the chalcid fly play a part, and the relative price of hay and of seed is not without importance.

Weather conditions that make for the early maturing of the hay crop favor seed production, especially if abundant rains soon after haying encourage a rapid second growth. If the second growth is good, clear dry weather from the time the buds start to show provides ideal conditions for a good set of seed. There is little doubt that this is because bumble bees thrive and work best in dry weather. The clover flower midge is a factor too often overlooked. This minute fly appears in time to lay eggs on the opening buds of the first crop, the maggots eat the developing seed, and maturing as the heads get brown, go into the ground to emerge as females in time to lay eggs on the second bloom. If the first crop ripens fast and is cut early most of these maggots are destroyed in the hay, while if the first crop is cut late many thousands mature and are ready to attack the second crop. There is no way of knowing how much damage the midge does, but it is no doubt considerable. It is not possible to say how much the farmer is influenced in his decision to leave a field for seed or not, by the price of hay, but it is not improbable that, when hay is high and the weather good for haying, he will think twice before assuming the risk of the seed crop at the expense of a certain profit out of hay. While actual yields cannot be predicted until the seed comes out of the huller, it may be said that when in any field a number of heads rubbed out yield an average of 25 seeds per head, a yield of two bushels or more per acre may be expected.

While the seed of medium red clover is taken from the second crop, that of mammoth is from the first crop, and normally ripens early in August. In ordinary years this seed gets on the market in advance of the medium red. Alsike clover seed is also cut from the first crop during the latter part of July. While this clover makes a better plant on low land, the best seed crops are taken from the

poorer, dryer lands, as on these the plants branch more and do not lodge so badly. Since the seed crop is all the farmer gets out of alsike when it is cut for seed, the areas of production are more limited to sections in which the seed crop has proved to be profitable. These areas are certain counties in Western New York, an area in Michigan, Indiana and Ohio, roughly covered by a circle with a diameter of one hundred miles pivoted on the point where these three states meet, and a few counties in eastern Wisconsin, northwestern Oregon and the Snake River Valley of Idaho. Some seed is produced over a much wider area, but these sections produce practically all the commercial crop.

Clover seed is commonly bought from farmers by local jobbers or shippers who generally have a more or less permanent connection with dealers in the large centers. These jobbers or shippers often partly reclean the seed as it comes from the huller, but it commonly needs further cleaning before being fit for definite market grades. Prices are made on sample, and depend of course primarily on the condition of the market, but next to that are regulated largely by the quality of the seed offered.

Condition and Movement of Sorghum Seed in Kansas and Missouri.

The bulk of the Sorghum or Cane seed available each year in the United States is produced in Kansas, Texas and Oklahoma, while limited quantities are produced in Missouri, Nebraska and Colorado. Of the main producing sections, Western Kansas and The Panhandle country of Texas rank high as to the production of seed, Western Kansas producing the Black Amber and Texas producing Sumac or Red Top. Eastern Kansas produces a number of varieties, the main one being the Orange.

This report embraces conditions in Western Kansas and North Central Missouri. Cane seed crop in Western Kansas this year is exceedingly short, probably from 15 to 20% of last year, due largely to an extremely dry summer during which very little seed matured. The bulk of the acreage is hardly suitable for fodder. The following counties in Western Kansas: Sherman, Thomas, Sheridan, Graham, Rooks, Wallace, Logan, Grove, Trego, Greely, Wichita, Scott, Lane, Ness, Hamilton, Kearney, Finery, Gray and Ford are the main producers of cane seed. Acreage was normal, early prospects pointed to a bumper crop, but after threshing commenced yields were cut down very materially from original estimates, due to the fact that heads did not fill and much light weight and immature seed was blown into the stacks.

A fairly accurate estimate of conditions at twenty-nine of the largest shipping stations shows that this section has a surplus of only 43,000 bushels to be shipped out this year as compared with 277,000 bushels shipped out in 1916. Some of this seed will be required in Western Kansas next spring as some points have not a sufficient supply of seed on hand to meet seeding demands next spring. If the Wheat crop is poor or a failure, additional supplies will be needed for this section, thus cutting down available surplus for shipment. The bulk of the seed is of good quality and germination, the latter being above the 1915 and 1916 average. The 1915-1916 carryover is negligible owing to the heavy demand and the high prices last spring and early summer, and most stocks available will be new crop seed.

Threshing is now well under way, and bad weather is the only thing that will delay operations. Local country shippers are paying farmers from \$3.00 to \$3.50 per hundred, and in some instances higher prices have been paid. Owing to these high prices at the start local dealers are inclined to buy slowly, and the Missouri Valley jobbers who handle bulk of the seed are not inclined to bid over \$3.50 per cwt. at country shipping points at present. Quantity figures are not yet available as threshing returns are not complete.

North Central Missouri this year will have the largest crop of cane seed ever produced in this section, and will most likely have a surplus to ship out. Normally this section does not have an available surplus but rather has to ship in seed for normal seeding requirements. With this condition existing in this section no seed will have to be shipped in and the surplus at other points will be available for other consuming areas, which will relieve the general condition of shortage. Our reports up to Nov. 15, 1917, show no seed in this section threshed, and no prices yet offered.

SEED CORN SITUATION

In the November issue of the Seed Reporter attention was called to the seriousness of the seed field corn situation in the Northwest and suggestions were made to save as much of the corn suitable for seed as possible. The shortage of good seed corn in the Northwest appears at this time to be even more serious than it was a month ago, for at that time it was hoped that seed would be picked from many of the fields that had escaped serious injury from the early freezes. In many cases, little or no attempt was made to save seed from these fields because of the press of other work and the unwillingness of many farmers and seedsmen to risk going to the expense of saving corn heavily laden with moisture.

Because of the greater acreage devoted to corn in the central part of the United States than in the Northwest, the seed corn situation is to be regarded even more serious than that in the Northwest. This is true despite the fact that a succession of freezes in sections of the Northwest has made it virtually impossible to find fields from which corn suitable for seed can be picked, whereas it is still possible to gather considerable corn in many of the Central States that by the most careful selection and handling may be fit for seed purposes.

There is a tendency on the part of some of the states to import seed from other states that is needed even more in the very states from which it is being taken. Some South Dakota and Minnesota corn which, no doubt, will all be needed in those states, or in North Dakota, Wisconsin, or Michigan, is being used to supply Northern Iowa and Nebraska farmers. In most cases the local or state seed demands should be attended to first, and if later on it appears as if there is likely to be a surplus in that locality or state, with the agencies at work in aiding the distribution of seed during this emergency, there should be very little trouble in finding an outlet for such surplus corn.

In reply to a questionnaire which we sent out, fifty-one of the largest seed corn growers and dealers in Iowa, Illinois, Indiana, Ohio, Nebraska, Missouri, Kansas, Minnesota, Wisconsin, North Dakota and South Dakota, who handle in the aggregate over 800,000 bushels annually, furnished us with the information which is given in part below.

In general, these firms report that it will be difficult to cure (dry) their corn for seed. A few dealers in Illinois and Indiana having well-equipped seed houses do not anticipate much difficulty in curing their corn; also Southern Missouri dealers report that there is not likely to be any difficulty in handling their crop this year because it compares favorably with that of any average year. Of the fifty-one, sixteen indicate that they expect to handle more seed corn this winter and next spring than usual; eleven intend to handle the same amount as usual, twenty less than usual, and four do not commit themselves one way or the other. Field run corn is bringing mostly \$1.50 to \$2.50 per bushel, though some is being bought at as low as \$1.25 and some as high as \$4 per bushel. Selected corn is bringing \$2.50 to \$5.00 per bushel on the average, though some farmers are holding their selected 1917 crop corn at considerably higher prices than these.

In reply to our question, "What, in general, is the condition of your field corn this season?" the general information from each of the states may be summarized as follows:

ILLINOIS—The Illinois growers report their corn to be of good size, full of moisture and therefore somewhat difficult to cure, especially the late varieties.

IOWA—Most of the Iowa growers and dealers report the bulk of the 1917 Iowa crop unfit for seed, no matter how handled commercially, and many of them are relying on the 1916 crop carried over for seed.

INDIANA—The very high moisture content of the Indiana crop is emphasized by the growers of that state, but most of them hope to be able to secure sufficient corn from the best fields that had not been killed by early frosts.

NEBRASKA—All the Nebraska dealers who reported state that the crop is very poor, and half of them say that it is the poorest crop ever known.

KANSAS—The Kansas growers report that fields have a large percentage of soft corn and that the per cent of it fit for seed cannot be estimated at this time.

OHIO—Growers having their seed corn acreage in the northern part of Ohio report the crop very poor and very

little of it fit for seed purposes. Southward in the state the corn is better, the best corn being in the southwestern part.

MICHIGAN—All dealers report difficulty securing corn suitable for seed. All old corn and matured new crop should be carefully inspected and tested with view to saving all suitable for seed.

MINNESOTA—Reports from the southern half of Minnesota, where most of the corn acreage of that state is planted, indicate that, except in spots rather widely scattered, the crop is very poor in quality. Much of the corn in the southwestern portion that seemed to be sufficiently matured so as to be out of frost danger has been badly injured by freezes the past month.

SOUTH DAKOTA—Early reports seemed to indicate that much of the South Dakota crop would be suitable for seed, but the heavy freeze in October, followed by other freezes, has damaged the corn considerably and the southern and southeastern part of the state seems to have been affected quite as much as other sections of that state were.

MISSOURI—The dealers in the southern half of Missouri indicate the quality of their corn crop equal to or above the average crop, whereas those in the northern half send in reports similar to those coming from Iowa and Illinois.

WISCONSIN—The seed corn situation in Wisconsin is expressed by some correspondents as the "worst ever." Those dealers in Wisconsin who have been depending upon Nebraska grown corn from Wisconsin seed stock will have to look elsewhere for their supply this year on account of the poor condition of the Nebraska crop.

There are certain things that must be taken into consideration in coping with the seed corn situation this year. (1) On account of there being more moisture in the corn this year than usual, due to the general late maturing of the crop and early, severe frosts, corn intended for seed must be put under cover immediately, if not already done so, and protected from further freezes until it has had time to dry out thoroughly. Extreme care must be exercised not to pile the corn and cause it to heat thereby. (2) The shrinkage of the corn in drying and the number of dead ears will be greater than normally, hence it will be necessary to take into the seed houses more corn to secure a given amount of good seed corn than is usually done. Many growers are finding it necessary to sort over four or five bushels for each bushel of seed obtained; few report only 10% of the corn accepted by them on contracts as fit for seed. (3) While it always is advisable to plant only the highest germinating corn, 95% or better if possible, it may be necessary for farmers to plant seed next spring that germinates 10% less than what is commonly insisted upon. Therefore, it would be well for farmers to retain corn that shows a composite test of possibly 70%, or even less, with the view of culling out the inferior growing ears by ear tests and thereby bringing up the germination of the selected ears 10 to 25%. (4) Farmers should save, not only as a patriotic duty, but as a protection to themselves, several times more seed corn than will be needed by them to plant their own acreage. There is no doubt but that high testing, reasonably pure seed corn will be in great demand next spring in the corn belt and north of that belt. There may be considerable shriveled, low testing seed corn available in the spring, but it will be better to err on the side of having too much seed corn than too little. (5) Farmers having fields or cribs of corn from which good seed could be selected and not able or disposed to go to the trouble and expense of picking the best of it, should not curtail the available supply by holding their corn at such an exorbitant price as to discourage neighbors or seedsmen from working it over for seed purposes. (6) Corn which has been saved for seed should be tested immediately and, if unsatisfactory, plans should be laid at once for replacing it with other lots. Contract seed corn growers should ascertain as accurately as possible what deliveries their growers are likely to make and impart this information to jobbers and retailers with whom future sales or contracts were made. (7) Any old corn that may be suitable for seed should be tested for germination and if satisfactory should be held for seed purposes rather than fed or manufactured into some food product, and that farmers should not feed matured corn of this year's crop.

Inasmuch as corn is one of the most important food-stuffs of this country, every agency, both private and public,

both state and national, should see to it that there will be sufficient seed corn to plant the acreage next spring and also a surplus for any emergency that may arise. The U. S. Department of Agriculture, through its Seed Stocks Committee, wishes to be of the greatest service in aiding in the securing and distributing of seed corn, as well as other seeds. Other Federal and numerous State agencies, viz., agricultural colleges, experiment stations, county agents, State Seed Stock Committees, State Councils of Defense, and other emergency workers have been helping, and will continue to help and co-operate with farmers and dealers to solve the seed corn problem that confronts the most important corn producing states this year.

SEED SWEET CORN SITUATION.

Reports from twenty-five large, representative sweet corn growers and dealers, whose aggregate annual sales usually amount to approximately 168,000 bushels, indicate that the seed sweet corn situation is very serious.

In the seed growing sections of Iowa, Nebraska and Ohio the crop was late and, therefore, easily susceptible to heavy freezes. Some of the earlier varieties matured sufficiently before the advent of the hard freezes, but the damage done to the late varieties was considerable in those states. In Connecticut the crop seems to have been satisfactory, except that some of the later varieties are carrying somewhat more moisture than usual, therefore difficult to cure.

Dealers are anticipating deliveries on growers' contracts of 40 to 75%, depending upon the varieties contracted and sections where grown. Many of the seed sales or contracts to seedsmen last spring were made at \$4.50 to \$6.50 per cwt. On the open market at this time many of the varieties appear, from figures submitted, to be selling at about three times the price asked for them on contracts made last spring, or at \$12.00 to \$20.00 per cwt.

Of the twenty-five who replied, eight indicate that they expect to handle more seed sweet corn than usual, that is, if they can secure the seed, three the same amount, thirteen less than usual, and one cannot decide. All but three seem to think that the curing of the crop will be difficult.

Much of the sweet corn grown on contract is not shipped to the seedsmen until in January or February, in order to insure its being thoroughly dried out before shipment. Growers should see to it that the utmost care be given to the corn they are curing so as to obtain as much good seed as possible. The carry-over of seed sweet corn is probably considerably below normal and greater importance is, therefore, attached to the available amount of new corn. Germination tests should be made as soon as possible to ascertain what per cent of the crop harvested will be fit for seed.

Early Movement of Cowpeas.

Movement of Cowpeas throughout production areas in the Cotton States is about thirty days in advance of 1916, due to higher prices being offered to growers.

The crop as a whole is estimated to be equal to that of 1916, while in some small localities the yield is far below normal, due to unfavorable weather conditions, and in other localities the yield is unusually good and acreage greatly increased.

The greatest demand at this time seems to be in the Delta section of Mississippi, and the sugar belt in Louisiana, where dealers are offering \$2.00 to \$2.50 per bu. to growers f. o. b. shipping point. Shippers and dealers in other sections are paying to growers f. o. b. shipping points \$1.75 to \$2.00 per bu. Most large farmers who are able to hold their crop are asking \$3.00 per bushel, and expect to keep their supply until March and April 1918, at which time each year the demand has usually been greatest and the price highest.

At this time in 1916, shippers were paying only \$1.25 to \$1.75 per bu. to growers. An increasing demand later in the Spring of 1917, followed by rapid advance in price enabled them to pay growers as high as \$2.50 per bu.

The quality of the 1917 crop is unusually good, owing to very favorable weather conditions during harvest time. Another important factor which materially improves the grade of Cowpeas is the advent of improved hulling and recleaning machines on the farms, mostly in the States of Alabama, Georgia, Tennessee and South Carolina.

It has been the custom of large shippers and dealers in previous years to buy up a heavy stock of Cowpeas during the early period of the movement and hold until spring, usually for a much higher price. However, at this time there is less inclination to speculate on this commodity.

German Millet in Missouri and Kansas.

The millet seed produced in northern Missouri and northeastern Kansas is mostly German millet, and these sections of the two states are the main producing areas. Other states producing German millet are Tennessee, Texas, Southern Iowa and Nebraska, and scattered sections of Oklahoma, Kansas and Colorado, but the bulk of this seed is raised in the two first mentioned sections.

Northern Missouri has a good crop of millet seed this year and the threshing is about completed. The 1917 crop is estimated at about 90% of the 1916 crop and reports from twenty-five of the large shipping points show a surplus of about 70,000 to 75,000 bushels to be shipped as compared with about 80,000 bushels in 1916 shipped from the same points. The crop is moving freely from the farms and it is estimated that 60 to 65% had moved up to November 15.

Quality of seed is fully up to normal and possibly a little better as to color and freedom from foreign matter. Dealers who buy from the farmers bid for seed by the bushel figuring .50 pounds to the bushel, basis clean seed, and this is determined by getting an average sample of the seed and putting it through small screens and weighing the dirt, weeds and the clean seed, thus the farmer is paid according to good seed present. Prices being paid farmers up to November 12, ranged from \$1.00 to \$1.35 per bushel, average being bought at \$1.25 per bushel. Local dealers are selling freely to the larger jobbers, taking a small profit, and are not desiring to hold and speculate. Jobbers are bidding from \$2.50 to \$2.65 per hundred weight, basis country shipping points for fairly clean, country-run seed, practically all of which is being shipped out in earlots. The Missouri Valley jobbers and cleaners usually handle bulk of the crop, but this year the seed seems to be moving east and north into other states.

Northeastern Kansas this year has a larger German millet crop than 1916, and the average quality is fully up to normal. Reports from twenty-one of the largest shipping points and producing centers, show that threshing operations have been general the past month and crop about all threshed. It is estimated that these points will have a shipping surplus of about 132,000 bushels this year as compared with about 71,000 bushels from some points in 1916. Seed is moving from the farms more freely than normal, probably due to the higher prices being offered the growers, which range from \$1.15 to \$1.20 per bushel for good quality seed, some smutty, low grade seed being bought at from 80 cents to \$1.00 per bushel, and some extremely bright, almost round, pure German, bringing as high as \$1.45 per bushel. Probably 50% has moved out of growers' hands to local dealers, they in turn selling to the cleaners and jobbers, not caring to hold and speculate at the prevailing prices. Missouri Valley seedsmen and cleaners are heavy buyers in this market and prices bid country shippers and dealers range from \$2.50 to \$2.65 per hundred basis country shipping points. Some country dealers prefer to buy this seed on commission for the larger dealers. It is also stated that in spite of the free movement of the seed from the farms early, some farmers are now putting the seed in bins on the farms, intending to hold in anticipation of higher prices. Those that sold early did so because of having no storage room, and because of need for the money. Some years the farmers have hauled the seed to the shipping point elevator, stored it there, to be offered on the market later in the winter and spring, but the high prices this fall are causing most of them to sell when threshed.

In order to help during the present car shortage, shippers are now loading from 1,500 to 2,000 bushels in a car where formerly 600 bushels was considered a carload.

SWEET CLOVER IN KANSAS.—The sweet clover seed crop in Kansas is very short. Jobbers have put considerable effort into finding available stocks, but very little has been located.

Early in the season much seed was offered and jobbers thought the crop was a fair one. This seed was readily picked up by a few firms, and now jobbers can locate very little seed and doubt if they will be able to obtain sufficient stock to meet normal spring demands.

The quality of the seed is good and probably better than last year, as it is brighter, cleaner and contains less unhulled seed. Prices paid farmers have varied from 15 to 17 cents per pound for hulled, white blossom, and 6 to 8 cents for the unhulled seed.

Dealers are asking 10 to 12 cents for unhulled and 19 to 20 cents for hulled seed, but are not inclined to sell freely, as they prefer to hold for the spring demand.

CLOVER AND TIMOTHY MARKET CONDITIONS AT TOLEDO, CHICAGO AND MILWAUKEE

Toledo, Ohio.—This is the most important clover seed market in the world, not altogether on account of the quantity of seed handled, because its receipts and shipments are not much more important in many years than other markets, but the future trading done on the board establishes a price by which nearly all of the markets are governed.

Ohio and Indiana have always been important clover seed producing states, and Toledo has always been an important market. The trading on futures, no doubt, began from operations of one large New York exporter in the 70's who had large European contracts. He wired Toledo to buy all the cash seed offered and if any seed to deliver later to buy offerings of this also. There was on this deal for him something like ninety-five cars of seed traded in, and from this began the future trading on the market which has resulted in practically all "futures" trading being done on the Toledo market.

Members of the Toledo Board have adopted certain rules and regulations which are applicable to grading and trading. Statements of stocks on hand and receipts and shipments are carefully estimated, and information given out is apparently compiled as accurately as possible so that all trade will be informed of conditions.

Reports of receipts are collected by the seed inspector who visits all railroads each day and gets a list of arrivals and samples. Reports are made for the day previous, but usually include that which has been inspected on the morning of the day reported, usually up to about 8:30 a. m. Grading is done by this seed inspector, but in case of an appeal it is referred to a committee of the Board.

Receipts do not include, however, what is sold by farmers brought in in wagons. In some seasons this amounts to considerable, but it is argued that as large quantities of clover come in tied bags, especially that in wagons, and as shipments are sewed bags, that the difference in quantity, considering cleaning, is about balanced by the small amount of receipts not taken into consideration in the wagon delivery. Reports of stocks on hand, which are taken September 1, are actual count and include all seed dealers, public warehouses and small dealers who are not members of the Board.

Survey December 1, 1917.

Stocks on hand reported Sept. 1, 1917.....4,109,990 lbs.
Receipts, Sept. 1 to Nov. 30, 1917.....1,217,525 lbs.
Shipments, Sept. 1 to Nov. 30, 1917.....2,574,085 lbs.

As is indicated, fairly large stocks were carried over; but receipts for this season have been very light, due to several important factors. First, the crops as compared with 1916, for Indiana not over 70%, Ohio 80%, Michigan not over 50%; second, the weather conditions since cutting have been extremely bad, hence threshing delayed, and it is estimated not over 60% of the harvested crop will be marketed. That which was threshed early is good quality, but later samples show bad weather stain. Until lately not so much seed has been coming and there were more receipts during the week of November 17 to November 24 than any other week of the season. Prices on prime clover are the highest that have ever been recorded since the Civil War, December seed advancing from \$13.80 per bushel October 1 to \$16.35 November 21.

Prices November 30 closed as follows, all prices per bushel:

	December	February	March
Red Clover	\$15.90	\$16.15	\$15.67
Alsike	14.50	14.70	14.80
Timothy	3.67	3.87

It will be seen from the above figures that the cash and near future months are higher in price than the later deliveries and it is generally thought that some large interests have been absorbing the cash and winter months readily, but March is not being bought so freely.

Stocks held at this time in Toledo are below normal. A good deal of seed has been sold for export, mostly to England. Prices have not varied much in the last month. Little seed is being consigned, as there is a tendency to buy freely all lots offered, providing prices are in line. Hence, country shippers of red clover have been selling their seed direct by samples, or to travelers from various houses, at their own stations, and do not have to consign to commission houses this season.

Alsike clover is not much traded in on "futures" and fluctuations are small, for Toledo is largely governed by offerings from producing sections such as Wisconsin, Canada and the far West.

There is more timothy for future delivery now traded

on in Toledo than in Chicago, where the bulk of the cash seed is handled, and Chicago dealers at times take advantage of the Toledo market to sell future seed, which is usually delivered. Timothy offerings have been liberal, but Toledo does not receive much from country shippers, and its main purchases are from larger dealers in large timothy producing sections.

Milwaukee, Wis.—This is one of the important clover seed markets, and is especially prominent this year because crops in Wisconsin are better than in most other sections. Dealers report movement of clover in this market this year good. The acreage in Wisconsin was large, but the yield was light. Eastern Minnesota good, but the state as a whole less than last year.

Alsike has made a splendid crop, good quality and good yield, sometimes averaging six bushels per acre. White clover fair crop, but only moderate quality. Farmers and shippers have been free sellers, but threshing, owing to inclement weather, has been very much delayed, and a great deal of seed is yet to come. It is conservatively estimated that farmers and interior dealers still hold about the following proportions of the Wisconsin crop: Red, 45%; alsike, 35%; white, 20%.

The ranges of prices paid by Milwaukee dealers have been: All prices per pound.

Red —Early, 22 to 23c; later, 25 to 25½c.

Alsike—Early, 17 to 18c; later, 21 to 22c.

White—Early, 27 to 32c; later, 35 to 45c.

Present stocks of clover held in Milwaukee are not as large as usual at this time of the year, as dealers have been selling liberally a good deal for export and much shipped to Canada and Eastern seaports. Buying has been largely done by representatives direct in the country, and country shippers are not accumulating stocks, but selling as fast as they get them in. Little seed was bought early owing to bad weather, and nearly all stocks were bought at the higher prices.

There has been a downward movement in timothy for the past five or six weeks. Offerings now are small and mainly from the Western States. The quality is a fair average, but below last year's quality. On account of recent declines in prices and indifference of dealers to absorb at present prices, stocks have not had ready movement recently. Hence, country shippers who mainly bought their stocks at higher prices seem inclined to hold for better figures; consequently, trade moderately slow.

Prices paid for timothy early varied from \$7.00 to \$7.50 per hundred pounds; later \$6.00 to \$7.00. A fair amount of seed sold by this market for export early. The trade, on the whole, for the fall at Milwaukee has been very good, especially on clovers. Timothy had a fair movement early, but lately has been dull.

Chicago, Ill.—Seed in this market is bought mainly by the larger dealers direct from country shippers, though a fair amount is consigned to commission houses, of which there are ten or twelve important ones trading on the Board of Trade.

In some cases, if prices asked by shippers cannot be obtained, these houses advance money on consignments and store for account of shipper, to be sold at some future time. The most important item traded on is timothy, for which Chicago is the largest market in the world.

Commission houses have handled very little clover this season and the largest lots have been consigned lately. This is generally due to a backward threshing season and the fact that farmers have been very busy, and the bulk of the clover is estimated back in the growers' hands which will not move until spring. Prices have been very high, ranging from 24 to 26½ cents per pound, choice quality. Dealers all estimate crop much lighter than last year and principal offerings are from Northern Indiana, Wisconsin, Minnesota, and a little from Central Illinois and Missouri. Seed has been readily bought and stocks are thought to be below normal here. The quality of Northern seed generally good; that of South fair, weedy and stained.

On timothy early in the season and up to five or six weeks ago there was good demand and good trading. Since seeding season is past, however, sales have been very slow, prices have declined and buyers are not anxious to accumulate stocks at asking prices. Some seed has evidently been bought by the country shippers at higher prices than at present prevail on this market, and the tendency of the shipper is to hold back until higher prices are attained. The general opinion is that timothy sold relatively high in sympathy with other agricultural seeds early, but the demand has been more or less disappointing, owing to lack of exports; consequently more accumulation of stocks. Gen-

eral reports indicate that meadows are not in good condition. Many fields have been plowed up for grain, consequently the outlook for new crop not very favorable, and while demand may not consume present stocks very soon, it is thought that possibly the carry-over may bring better prices. Quality of timothy fair average and stocks in this market estimated about normal.

Other Ohio, Indiana and Kentucky Markets.—Seedsmen generally report that there is a larger crop of clover seed in Southern Indiana than usual; that while the quality is good, it contains a fair amount of dodder and buck horn. Seeds from other sections generally reported fair quality, but threshing delayed on account of the weather. Much seed is still in the fields that was not shocked and a possible reduction of 15 to 20% of the crop harvested. Seed much scattered. Prices paid growers early range from \$10.00 to \$12.00 per bushel, advancing to \$13.50 to \$16.00 per bushel. Stocks of clover seed in these markets generally below normal. General trade slow to fair. Outlook for winter and early spring good.

Alfalfa Seed Movement in Kansas.

Kansas, the largest alfalfa producing seed State in the United States, produced this year about 75% of a normal crop of seed, and about 50% of that of 1916. This year's crop is estimated at about 200 carloads. This with a carry over of 50 carloads from 1916 makes available for 1918 planting about 250 cars of Kansas seed, cars figured at 30,000 pounds each. This estimate is arrived at from a careful survey of principal producing sections, shipping points and from stocks stored or handled by large seed houses in the Missouri Valley. Other States, southwest of Kansas, namely, Oklahoma, Texas, New Mexico and Arizona are estimated as having 100 carloads of alfalfa seed available for use in 1918.

The normal production of alfalfa seed in Kansas is hard to estimate, as the production varies considerably from year to year. For example, Kansas in its largest year produced approximately 700 cars alfalfa seed, in 1916, 500 cars and in 1917, 200 cars; thus the average production of these three years would be about 430 cars.

Probably 75% of the seed has moved from the farms to date, most of this being of the better quality of this year's crop. About 25% is still left in the country, and less than half of this is merchantable seed, the remainder being very dark and off grade.

There has been considerable fluctuation in the prices paid this year, buyers early in the season offering, basis country shipping points, \$7.50 per bushel, for bright colored, fairly clean and free from dodder (the presence of which is much below normal in the seed this year). Later the prices advanced to \$9.00 per bushel for the better seed, and \$9.50 per bushel, basis best quality re-cleaned seed. Jobbers have paid from \$12.50 to \$17.00 per hundred for seed this year, including all grades. Average shrinkage for 1917 has been about 20%, while 10% is about the normal shrinkage.

The better grades of seed moved from the farms very freely in September and October, but as the larger buyers accumulated stocks in warehouses, the demand slackened and in November the movement was very slow and market dull. The heavy rains in the seed producing sections during harvest brought the quality of the seed below normal, the color being somewhat darker than usual but the germination apparently has not been affected. The bulk of the seed is of fairly good quality, although it requires extremely hard cleaning to put it into shape for marketing. The movement of alfalfa seed from the farms usually starts in August, but the bulk of the seed moves in October which is too late for fall seeding. Jobbers move the bulk of their stocks, in carlots, during October, November, December and January. The principal local demand comes during February, March and April.

Thresher Reports of Michigan.

Reports from threshers of seed hulled by them up to November 17, 1917, are given in table below. These reports were made to and compiled by Honorable Coleman C. Vaughan, Secretary of State, Lansing, Michigan.

Variety	Acres Reported	Total Production in bushels	Average Yield per Acre
Medium	2,921	3,602	1.23
Mammoth	3,186	6,836	2.15
Alsike	5,391	2,107	3.90
Timothy	1,700	8,733	5.14

Reserve a Supply of Cotton Seed for Planting Next Year.

It is of special importance at this time to urge cotton growers to preserve an adequate seed supply. The high prices being paid for cotton seed by oil mills doubtless are so attractive to farmers as to tempt them to dispose of every bushel over and above the quantity actually required for a single planting of next year's crop. But provision should be made for replanting, which is often necessary. Climatic conditions in parts of the Cotton Belt next spring may be, as they were last spring, such as to make it necessary to replant one, two or more times in order to get a stand. It would be wise, therefore, for farmers to reserve for seeding purposes fully twice as much seed as their acreages would require for a single planting.

A reserve of one bushel of cotton seed for every acre to be planted might be taken as a basis for calculating the total amount of seed that will be required in 1918. This reserve would provide for the first planting and a replanting, in case this should be necessary, at the rate of a half-bushel to the acre. Farmers who ordinarily use a higher rate should increase their reserve supply of seed accordingly. Those who use a lower rate may not need such a large reserve but it would be unwise to reduce it until a stand of cotton has been secured.

The immediate cash loss a farmer may experience through refusing to sell all his seed to the oil mill will be more than offset by the advantages to be gained next spring in having plenty of seed available for planting. These advantages, of course, will be shared next fall by the oil mill operators. A bushel of seed may bring the farmer two dollars now, but next spring it probably would plant two acres, from which a bale of lint and thirty to forty bushels of seed could reasonably be expected. Even if that bushel of seed were not needed for planting, but kept merely as a provision against loss of stand, it would perhaps be as valuable to the oil mill next spring or the following fall as now.

In some places replanting probably will not be necessary and quantities of seed may thus be released for use in other similar sections where a third or fourth planting may be necessary because of extreme conditions. Under such circumstances, farmers having surplus seed would be helping to solve the seed problems of other farmers, if, instead of selling to the oil mill, they would notify the chairman of the Seed Stocks Committee of the State in which the informant is located, as to the variety and quantity of seed on hand. In case the name of the chairman of the State Committee is not available, it will be furnished gladly by the chairman, Committee on Seed Stocks, Department of Agriculture, Washington, D. C.

Only the best seed should be saved for planting the next crop. Badly mixed seed or seed of a degenerate variety is not discriminated against at the oil mill, but no farmer should plant such seed if better seed is available. An increased yield and a higher quality of fiber can be counted on if pure seed is planted. In this connection, many farmers would find it to their advantage to obtain a supply of superior planting seed for next year and dispose of all their poorer seed at the oil mill. However, such a step obviously should not be taken until the superior seed has been secured.

Frost damage in northern sections of Georgia and the Carolinas and in Tennessee and Virginia may have rendered much of the cotton seed produced there in 1917 unfit for planting. Where frost was known to have injured part of the crop, the safe plan would have been to save only seed from bolls that fully matured before the freeze. If there is now any doubt about the extent of the damage, germination tests should be made, and if the germination is low, either the seed should be replaced with seed having a higher percentage of germination or the rate of planting should be adjusted to provide for poor germination. In the latter case, more seed should be reserved than if the germination were high.

Wherever possible, farmers should arrange with the ginner to gin their planting seed with special care. Every precaution should be taken to avoid admixture with other varieties. To do this successfully, it is necessary to clean all the machinery, especially the roll box, before ginning the lot from which seed is to be saved for planting. This seed should not be allowed to fall into the seed conveyor, but onto the floor, where it can be sacked separately.

Farmers who now have surplus quantities of good planting seed would be rendering patriotic service in their community by getting their surplus into the hands of other

farmers instead of selling it to the oil mills. These who need better seed should seek those farmers who have a surplus. The State Seed Stocks Committee is a medium through which farmers having seed for sale and farmers to buy seed can get together.

Farmers who have only limited quantities of pure seed should make every effort to preserve it and get a maximum increase next year. Special care should be exercised in storing and planting this seed and in cultivating the crop, and all operations should be undertaken with a view of increasing the stock so as to provide superior seed for planting larger acreages the following year.

The Lespedeza Seed Production and Movement for 1917.

H. S. COE,
Bureau of Plant Industry.

At the present time, the sections of the United States which produce lespedeza seed commercially are limited to portions of Louisiana and Mississippi. Louisiana produces much more seed than Mississippi and most of the seed produced in this State is grown in East and West Baton Rouge, East and West Feliciana, Pointe Coupee, Madison, Richland and Ouachita Parishes. As most of these Parishes are close to the city of Baton Rouge, this place represents one of the principal lespedeza seed markets in the State.

Most of the seed offered for sale in Mississippi is produced along the Eastern edge of the Mississippi River Delta and especially on the hill land adjoining the delta. Madison and Yazoo Counties produce much lespedeza hay and seed.

West Tennessee grows considerable lespedeza, but as yet very little seed is saved in this section.

There is no special reason why the harvesting of lespedeza seed should be limited to so small an area, as this crop will make sufficient growth for maximum seed production in many portions of the South, if it is given the care and attention that is given to other crops. It is true, however, that lespedeza will make a larger growth in the Delta than in most other sections of the South and it is on this account that it is grown extensively in this region. Unlike most forage crops, this plant may be permitted to remain standing until most of the seed is mature and yet produce a quality of hay which will bring a good price on the market. As the seed shatters very easily when mature, it is saved by attaching a pan with a perforated top to the cutter bar of the mower. When the hay is raked off of the top of the pan, the seed shatters from it and falls into the pan through the perforations. The seed is therefore obtained in addition to the hay. However, with the present price of lespedeza seed, it would be a paying crop to grow especially for seed, as the average yield is from ten to twelve bushels of re-cleaned seed per acre.

West Tennessee, Alabama, Mississippi, Southern and Eastern Arkansas, portions of Louisiana and Texas, and to a less extent all other sections of the South sow lespedeza.

On account of the severe drought during the spring and summer of 1917, much of the lespedeza was either killed or did not make sufficient growth to harvest. Much of that which made sufficient growth to cut, bloomed about three weeks later than usual and many fields were killed by frost before the seed was mature. It is possible that considerable mature seed will be offered for sale and as this will germinate poorly, it should not be purchased. For these reasons, the yield of lespedeza seed of good quality will not be more than 25 to 30 percent of that of an average year. The farmers in the lespedeza seed-producing sections realize the serious shortage and for the most part they will hold their seed much later than usual this year. Many growers will make an effort to sell direct to consumers. The high price of lespedeza seed will possibly cause a decrease in demand. Dealers are very much disappointed in their efforts to secure seed, and although offering the growers \$4.50 to \$5.25 per bushel of 25 pounds, f. o. b. shipping point, they have been able to secure only a few hundred bushels, while during the same period in 1916, their purchases amounted to as many thousand bushels, and at prices paid to growers of \$2.25 to \$3.00 per bushel.

KENTUCKY BLUE GRASS IN MISSOURI AND IOWA.—Next to Kentucky, the largest producer of blue grass in the country, Missouri and Iowa rank as heavy producers of this seed, their combined normal crop amounting to from 150,000 to 175,000 bushels (14 pounds to the bushel) of stripped or rough seed, and when re-cleaned about 65% of this is estimated as good, clean seed ready for market. Missouri and Iowa this year produced only about 55,000

bushels stripped seed, Missouri being the larger producer of the two. The seed this year is of good quality, as to weight, color and germination, and seed when re-cleaned will make 21 pound to 24 pound stock.

There being practically no old seed carried over by jobbers, and very little by the farmers, the new seed has all moved from the producer at good prices, ranging from \$1.00 to \$1.75 per bushel, the bulk of the seed being bought at about \$1.60 per bushel and is now in the hands of the Missouri Valley cleaners. The total re-cleaned seed in store from this section is about fifteen cars of 30,000 pounds each. This supply is insufficient to meet normal demands and in consequence considerable seed has been shipped in from Kentucky. The export trade in blue grass is at a standstill. The general movement of seed in carlots takes place during November, December and January, while local movement is best in March.

SOY BEANS IN MISSISSIPPI AND LOUISIANA.

The soy bean acreage is rapidly being extended in these two States, especially in what is known as the Black Land or prairie belt, and in the Delta section.

Most farmers plant soy beans in corn, as a second or catch crop, to be grazed by livestock and for fertilizer, and the growing and marketing of the soy bean, for grain or seed is specialized in by only a very few growers. However, most sections where they are produced this season will harvest enough seed to supply local demands; only one county, Yazoo County, Miss., reporting a surplus to ship out. Farmers are asking \$4.00 to \$5.00 per bu. for their stocks, and there has been practically no movement of the crop out of this county.

Dealers obtain their supply of seed from North Carolina, and the result of inquiries indicate that consumers will have to pay about \$4.00 per bu. for their 1918 requirements. The retail price paid in the spring of 1917 was about \$3.50 early in March, advancing to \$5.00 by May 1, 1917.

IMPORTS OF FORAGE PLANT SEED PERMITTED ENTRY INTO THE U. S.

Under the Seed Importation Act.

Compiled by the Seed Laboratory of the Bureau of Plant Industry, U. S. Department of Agriculture.

Crop.	Nov. 1917. pounds.	Nov. 1916. pounds.	July 1, '17. Nov. 30, '17 pounds.	July 1, '16. Nov. 30, '16 pounds.	July 1, '16 June 30, '17 pounds.	July 1, '15 June 30, '16 pounds.
Alfalfa			24,500	1,384,500	3,169,600	3,251,796
Awless bromegrass				1,400	1,400	315
Canada Bluegrass	57,400	5,600	107,200	20,800	495,300	698,300
Kentucky Bluegrass			3,700			1,300
Clover, alsike	463,000	635,900	811,200	2,247,000	4,329,000	1,113,464
Clover, crimson	105,100	204,700	978,500	3,537,500	5,776,300	4,503,983
Clover, red	1,700	215,000	118,800	1,790,200	5,343,600	32,508,537
Clover, white	2,200	1,400	51,000	76,700	157,800	148,768
Millet, Hungarian			9,000	94,400	259,500	117,759
Millet, broomcorn			218,500	58,100	786,400	1,101,556
Orehard grass			57,600	737,300	1,286,300	754,476
Rape	2,966,900	289,700	7,119,700	1,043,500	2,285,700	4,018,908
Redtop	900		2,200		1,000	
Sorghum					1,200,600	
Ryegrass, English	108,300	172,400	458,700	320,000	1,667,900	1,510,440
Ryegrass, Italian	45,600	114,200	221,900	228,900	480,700	382,841
Vetch, spring				23,800	29,900	61,613
Vetch, hairy		17,100	179,900	153,300	295,600	67,683

SUDAN GRASS IN KANSAS.—The crop of Sudan grass in Kansas is considerably larger than 1916 when the crop was short generally, and sold for 25 to 32 cents per pound. This year the market has opened at 12 cents per pound to farmers f. o. b. country points and jobbers are bidding local dealers for re-cleaned seed, free from Johnson grass, 15 cents per pound, f. o. b. shipping points.

It is absolutely impossible to get fair estimate on size of crop as fields are mostly small, running from two to ten acres each, and are scattered over entire state. There are only a few places where car lots may be accumulated.

The seed is of good quality but some will be light in weight on account of immaturity. Threshing is now under way and but little seed has moved.

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